

PATENT COOPERATION TREATY

PCT**INTERNATIONAL SEARCH REPORT**

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference HKQ/PB60441	FOR FURTHER ACTION	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/EP2004/009087	International filing date (day/month/year) 12/08/2004	(Earliest) Priority Date (day/month/year) 14/08/2003
Applicant GLAXO GROUP LIMITED		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 7 sheets.

It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. **Certain claims were found unsearchable** (See Box II).

3. **Unity of invention is lacking** (see Box III).

4. With regard to the **title**,

the text is approved as submitted by the applicant.

the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

the text is approved as submitted by the applicant.

the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

- a. the figure of the **drawings** to be published with the abstract is Figure No. _____

as suggested by the applicant.

as selected by this Authority, because the applicant failed to suggest a figure.

as selected by this Authority, because this figure better characterizes the invention.

- b. none of the figures is to be published with the abstract.

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A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 C07C235/00 C07C255/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
 IPC 7 C07C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, BEILSTEIN Data, WPI Data, PAJ, CHEM ABS Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	BESTMANN, H. J.; LANG, H. J.: "Zur Reaktion von Alkiliden-triphenylphosphoranen mit Chinonen" TETRAHEDRON LETTERS, vol. 25, 1969, pages 2101-2106, XP001205101 page 2102; table I; compound VII	1,4
A	JUBY, P. F.; GOODWIN, W. R.; HUDYMA, T. W.; PARTYKA, R. A.: "Antiinflammatory activity of some indan-1-carboxylic acids and related compounds" J. MED. CHEM., vol. 15, no. 12, 1972, pages 1297-1306, XP001204917 page 1299; compounds 9D,9E,9F	10
X	JUBY, P. F.; GOODWIN, W. R.; HUDYMA, T. W.; PARTYKA, R. A.: "Antiinflammatory activity of some indan-1-carboxylic acids and related compounds" J. MED. CHEM., vol. 15, no. 12, 1972, pages 1297-1306, XP001204917 page 1299; compounds 9D,9E,9F	1,3,4,8, 9
A	-----	10
	-----	-/-

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the International filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *&* document member of the same patent family

Date of the actual completion of the international search

21 February 2005

Date of mailing of the international search report

04/03/2005

Name and mailing address of the ISA

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP2004/009087

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	ALLEN, G. R. JR.; LITTELL, R.; MCEVOY, F. J.; SLOBODA, A. E.: "5-substituted-1-indancarboxylic acids as potential antiinföammatory agents" J. MED. CHEM., vol. 15, no. 9, 1972, pages 934-937, XP001204841 page 933; figure II; compounds 8D,9D,9E,9B -----	1,3,4,8, 9
A	TAYLOR, E. C.; CONLEY, R. A.; KATZ, A. H.: "Thallium in organic synthesis 62. A convenient synthesis of alpha-arylsuccinic acids" J. ORG. CHEM., vol. 49, 1984, pages 3840-3841, XP001204842 page 3841, right-hand column, lines 11-17 -----	10 1,3,4
X	TAMURA, Y.; SHIROUCHI, Y.; MINAMIKAWA, J.; HARUTA, J.: "Synthesis of 2-Arylsuccinates by Oxidative 1,2-Aryl Migration of 3-Aroylprionic Acids or 5-Arylfuran-2(3h)-ones with Thallium(III) Nitrate" CHEM. PHARM. BULL., vol. 33, no. 2, 1985, pages 551-556, XP001204918 page 553; table II; compound 49 -----	1,3,4
X	US 3 644 479 A (BRISTOL-MYERS CO.) 22 February 1972 (1972-02-22) A column 3, lines 7-35 -----	1,3,4,8, 9 10
X	US 3 940 434 A (CIBA-GEIGY CO.) 24 February 1976 (1976-02-24) A column 24, lines 35,36; example 9 -----	1,4,8,9 10
X	DE 20 23 000 A (TAKEDA CHEM. IND.) 5 August 1971 (1971-08-05) A page 3; examples 3,6 -----	1,4,8,9 10
X	US 3 663 627 A (BRISTOL-MEYERS CO.) 16 May 1972 (1972-05-16) A columns 3,7, lines 53-65 column 9, lines 1-30 column 11, lines 33-35 column 7, lines 53,65 -----	1,3,4,8, 9 10
X	GOTTHARDT, H.; NIEBRLA, S.: "Thermische Reaktionen von Thioketonen mit Acetylendicarbonsäure-dimethylester" LIEBIGS ANN. CHEM., 1980, pages 867-872, XP009042968 page 868; compound 9 -----	1 10
		-/-

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INTERNATIONAL SEARCH REPORT

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	ARSENAULT, G.; BROADBENT, A. D.; HUTTEN-CZAPSKI, P.: "Enolate Ion Reaktions of Leucoquinizarin. Michael Additions" J. CHEM. SOC., CHEM. COMMUN., 1983, pages 437-438, XP009043011 page 437; table 1; compound 2	1
A	-----	10
X	BARNETT, ET AL: "The action of Maleic Anhydride upon some Anthracene derivatives" J. CHEM.SOC., 1934, pages 1224-1226, XP009042990	1
A	compound VII	10
X	UEDA, T.; ITO, I., IITAKA, Y.: "Syntheses of Pyrazole derivatives. XXBI. Reaction of 1-Methyl-2-phenyl-1,2,3,10-tetrahydro-4H-benzo'6,7!thiepino'3,4-c!pyrazole-3,4-dione with Dimethyl Acetylenedicarboxylate." CHEM PHARM. BULL., vol. 24, no. 4, 1976, pages 596-606, XP009042969	1
A	page 600; compound 22	10
X	AVETISYAN ET AL.: "Relationship between chemical structure and anticonvulsant activity in succinimides" PHARM. CHEM. J., vol. 22, no. 4, 1988, pages 309-313, XP009042977	1,6
A	page 309; figure 1; compound VIIB page 310; figure 2; compound X	10
X	CAGNIANT, P.; BELLINGER, N.; CAGNIANT, D: "Contribution à l'étude de quelques dérivés substitués en 1 du dibenzoselenophène; nouvelle synthèse du benzo-üb! naphto-'1,2d! selenophène." C.R.ACAD. SC. PARIS, T.277, SERIE C., 29 October 1973 (1973-10-29), pages 779-781, XP009042974	1
A	2-dibenzoselenophen-1-ylsuccinic acid	10

2

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP2004/009087

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
US 3644479	A	22-02-1972	CA	920609 A1		06-02-1973
US 3940434	A	24-02-1976	CH AR AT AT AT AT AT AT AU BE DE FR FR GB JP NL US	585687 A5 206297 A1 337681 B 324275 A 337682 B 324575 A 329550 B 733173 A 5949673 A 803933 A1 2341301 A1 2196808 A1 2257278 A1 1446221 A 49056961 A 7311512 A 4004026 A		15-03-1977 15-07-1976 11-07-1977 15-11-1976 11-07-1977 15-11-1976 10-05-1976 15-08-1975 27-02-1975 25-02-1974 28-02-1974 22-03-1974 08-08-1975 18-08-1976 03-06-1974 26-02-1974 18-01-1977
DE 2023000	A	05-08-1971	JP JP BE CA CA CH CH CH DE DK DK FR GB GB GB GB HU NL SE US HU	49020566 B 49020567 B 750405 A1 1023381 A1 1017354 A2 545261 A 545759 A 545760 A 545769 A 2023000 A1 66575 A 133741 B 2051530 A5 1320183 A 1320184 A 1320181 A 1320182 A 166780 B 7006836 A ,B, 367181 B 3763229 A 174232 B		25-05-1974 25-05-1974 16-10-1970 27-12-1977 13-09-1977 15-12-1973 15-02-1974 15-02-1974 15-02-1974 05-08-1971 04-08-1975 12-07-1976 09-04-1971 13-06-1973 13-06-1973 13-06-1973 13-06-1973 28-05-1975 17-11-1970 20-05-1974 02-10-1973 28-11-1979
US 3663627	A	16-05-1972	NONE			

Form PCT/ISA/210 (patent family annex) (January 2004)

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